

**Fig. 1**



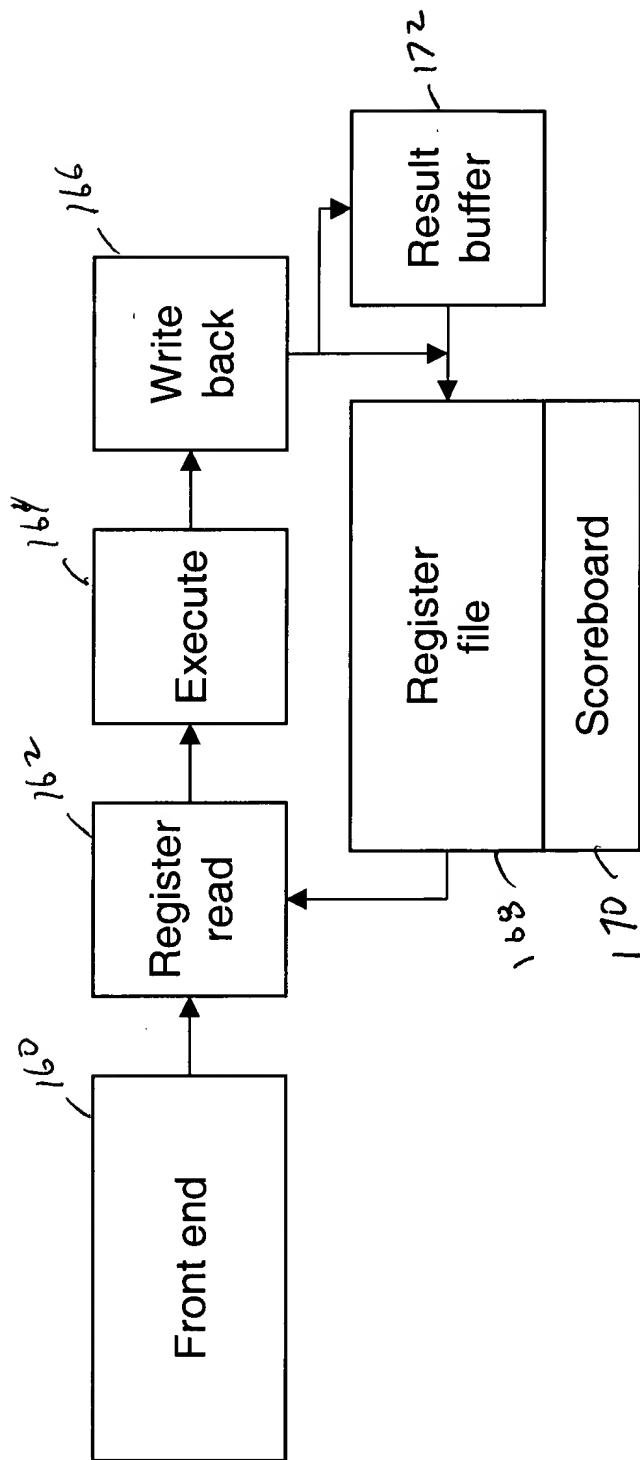


Fig. 1B

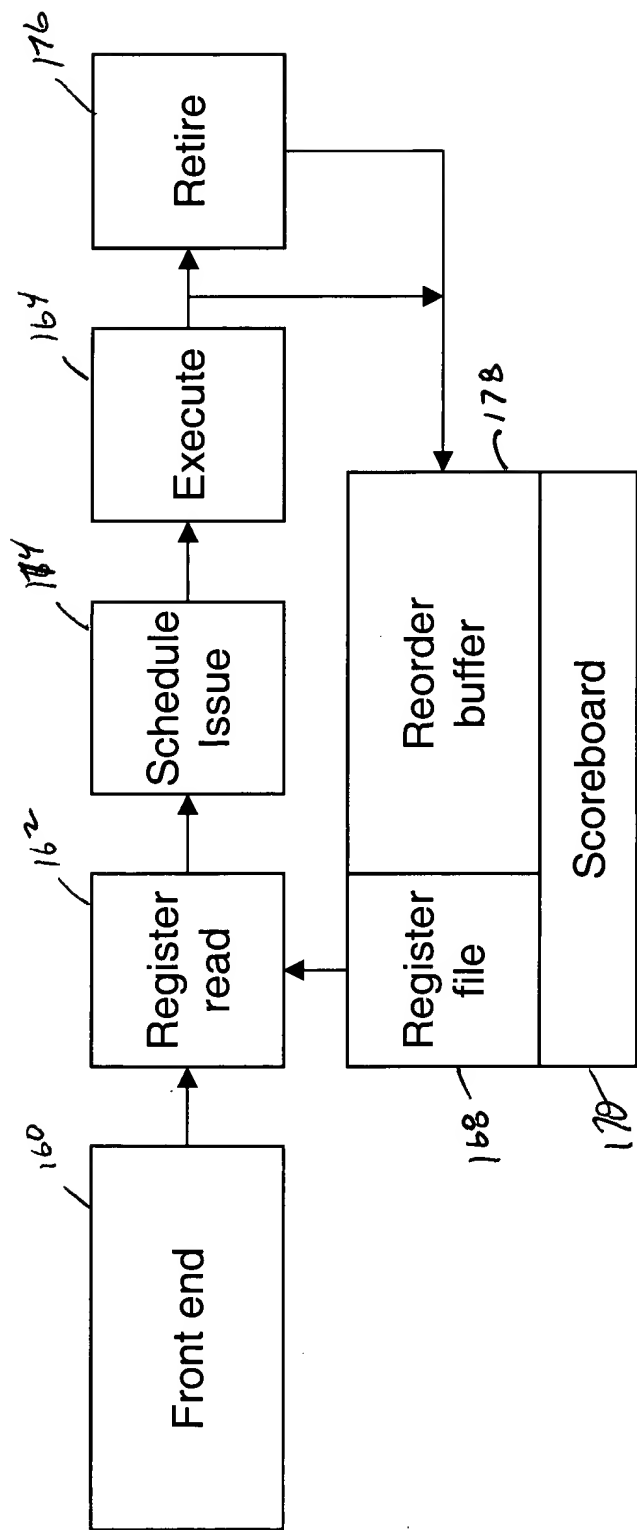


Fig. 1C



```
graph TD; Start([Start]) --> 302{Are source operands ready?}; 302 -- N --> 302; 302 -- Y --> 304{Is source predicate ready?}; 304 -- N --> 304; 304 -- Y --> 306[Execute instruction]; 306 --> End([End]);
```

The flowchart illustrates the execution process. It begins with a 'Start' terminal, leading to decision point 302: 'Are source operands ready?'. If the answer is 'N' (No), the flow loops back to the entry point of 302. If 'Y' (Yes), it proceeds to decision point 304: 'Is source predicate ready?'. If the answer is 'N', the flow loops back to the entry point of 304. If 'Y', it proceeds to process block 306: 'Execute instruction', which then leads to the 'End' terminal.

```
graph TD; Start([Start]) --> Join(( )); Join --> Decision{Are source operands ready?}; Decision -- N --> Join; Decision -- Y --> Execute[Execute instruction]; Execute --> End([End]);
```

**FIG. 3B**

```
graph TD
    Start([Start]) --> 320{Is source predicate ready?}
    320 -- Y --> 322[Write back to register file]
    322 -- Y --> 324[Clear scoreboard]
    324 --> 326{Is result buffer full?}
    320 -- N --> 326
    326 -- N --> 328[Write back to result buffer]
    328 --> 326
```

**FIG. 3D**

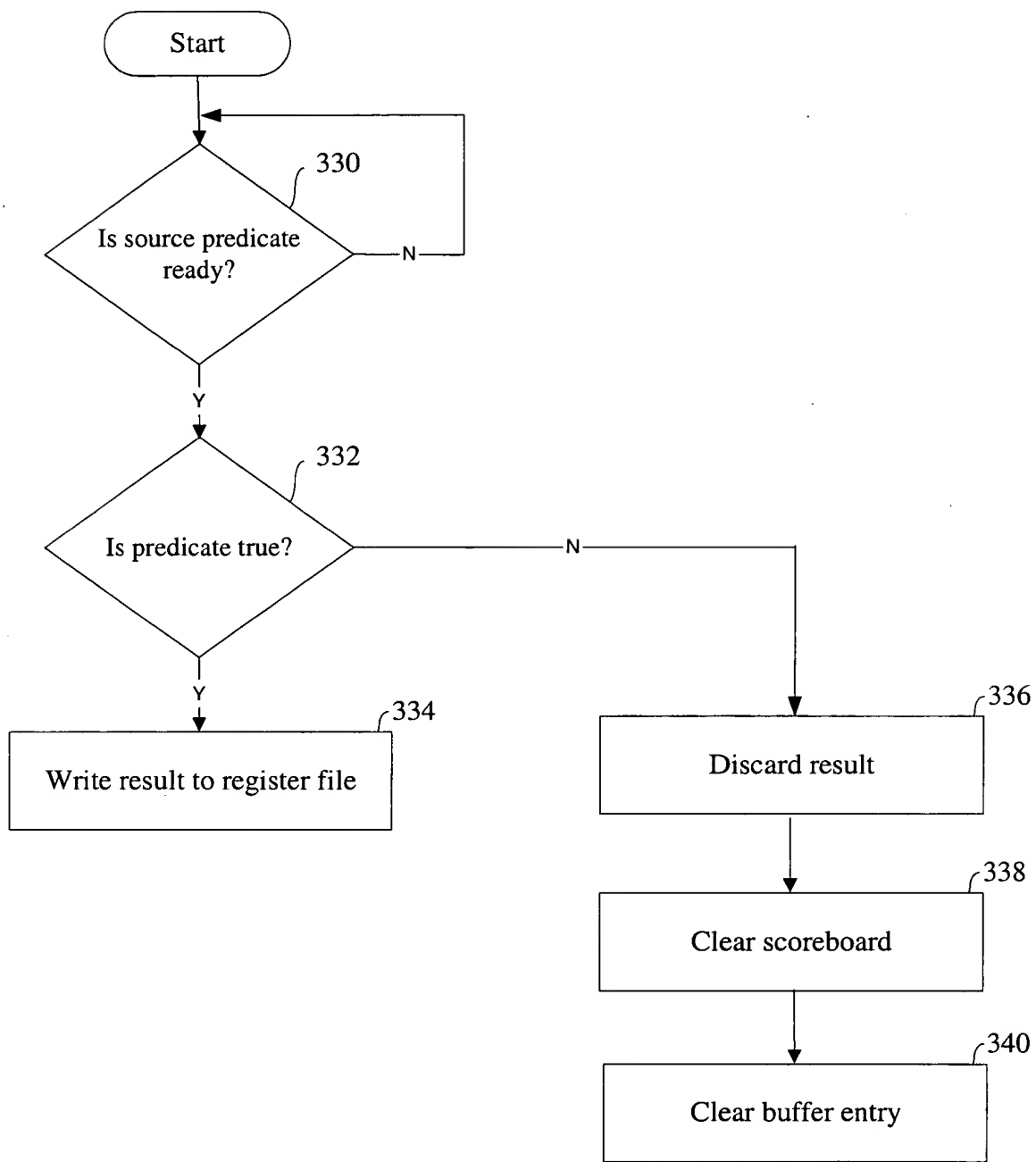
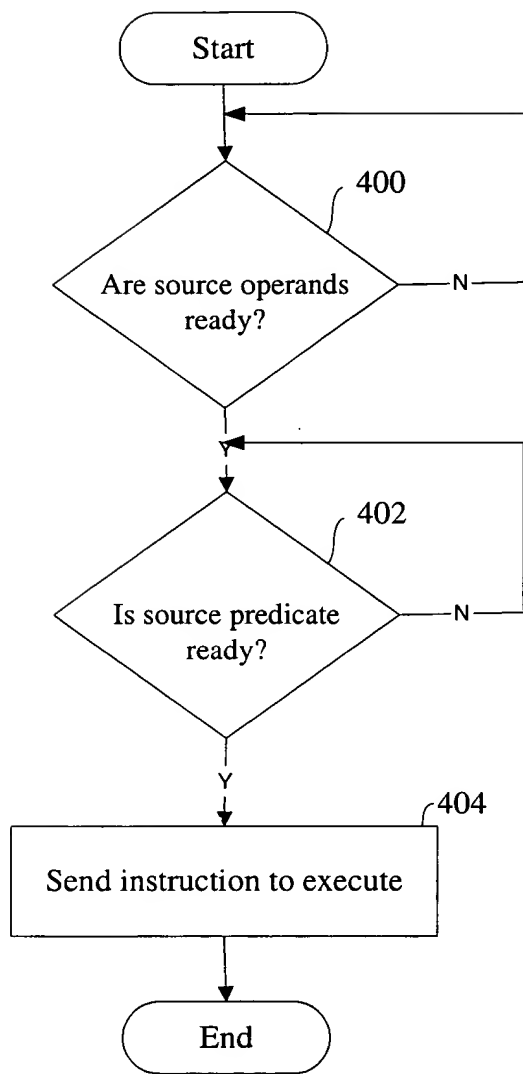
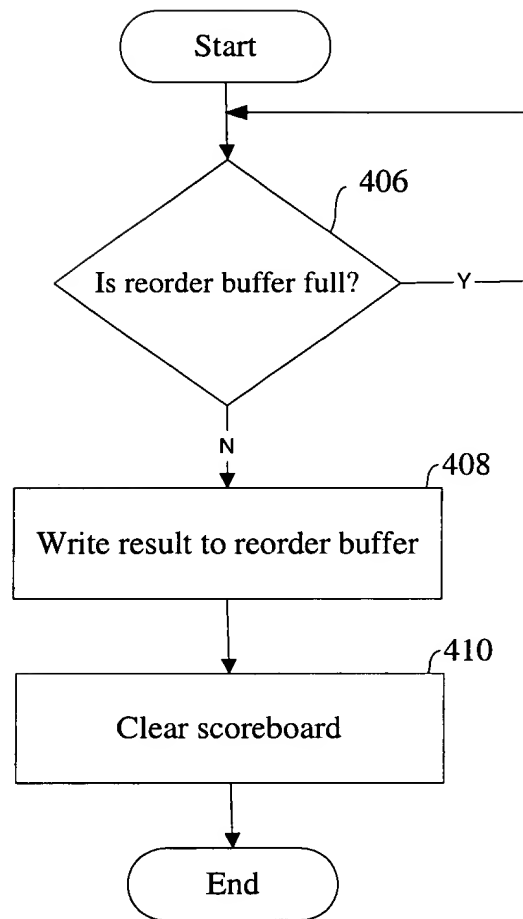


FIG. 3E

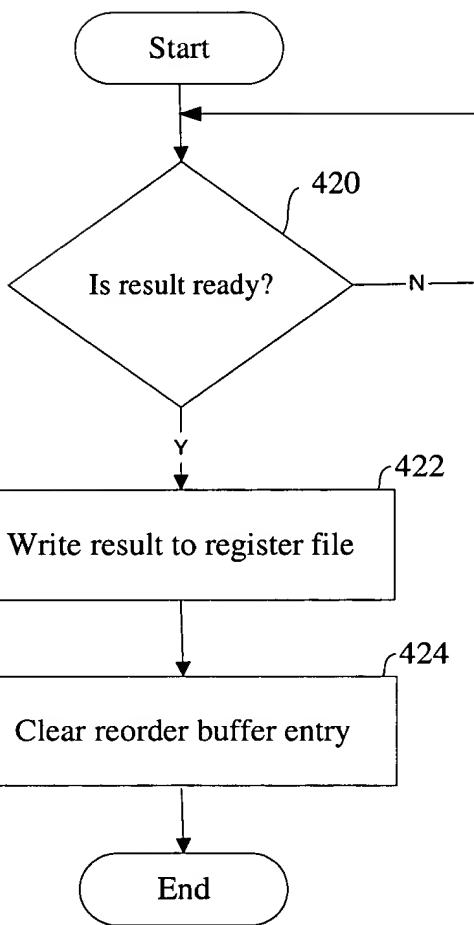




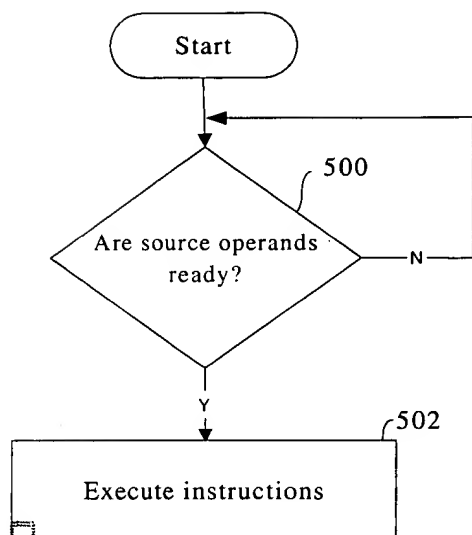
**FIG. 4A**



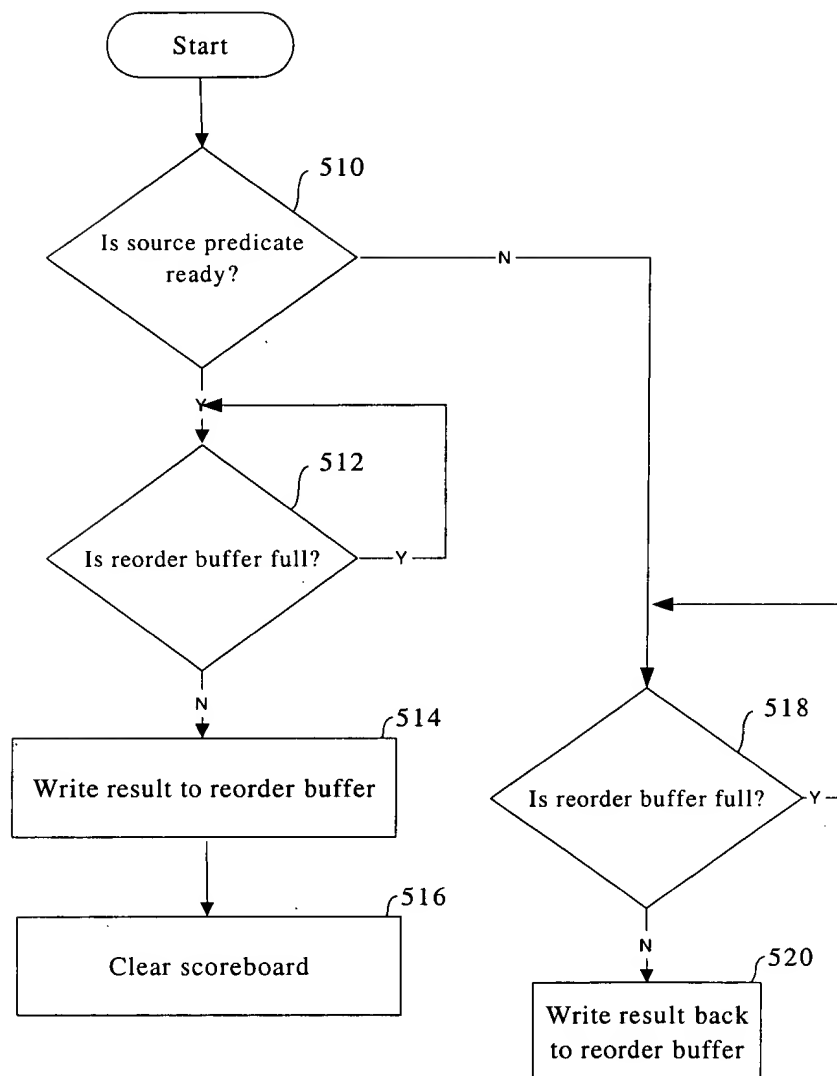
**FIG. 4B**



**FIG. 4C**

[illegible]

**FIG. 5A**



**FIG. 5B**

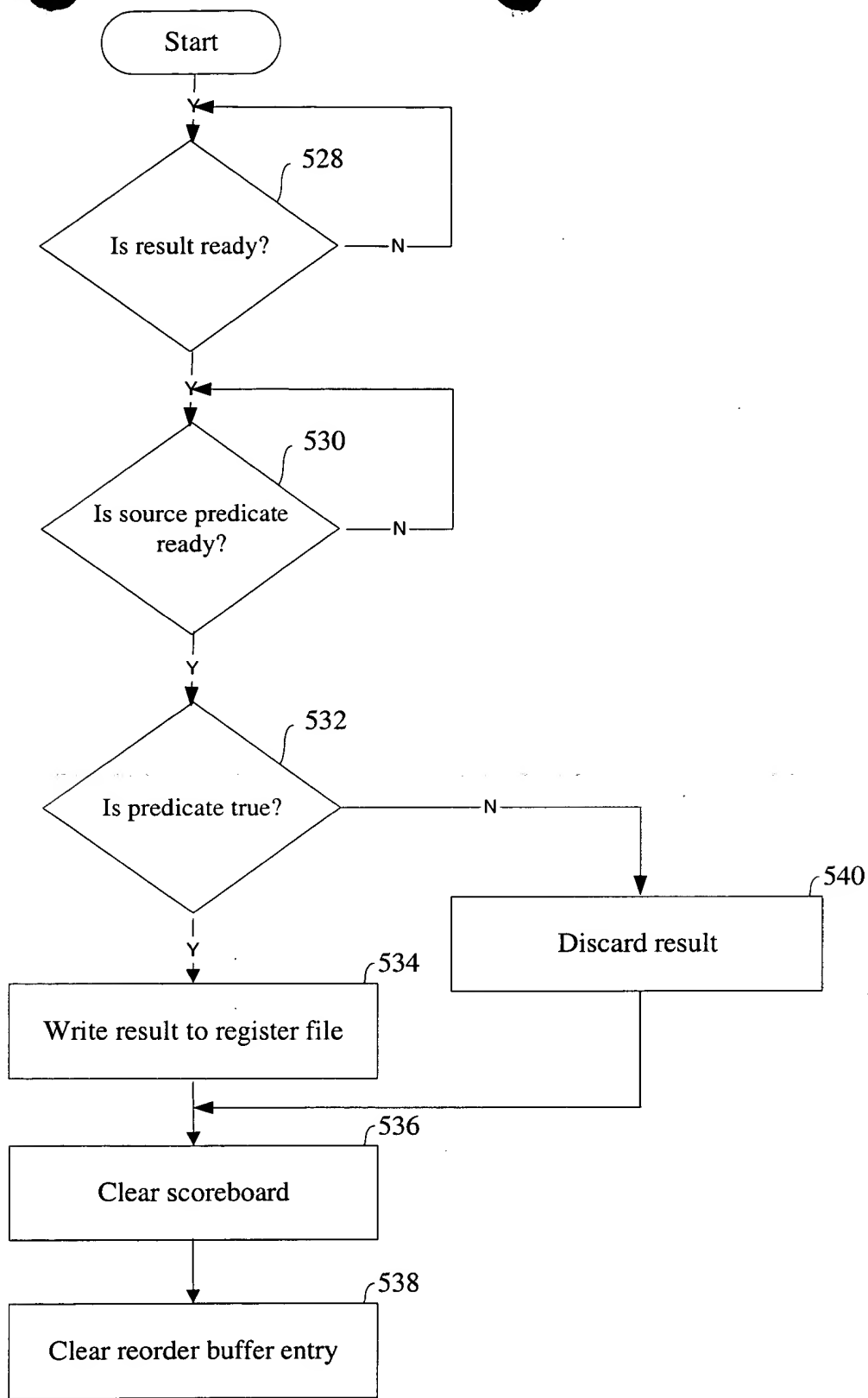


FIG. 5C